

Update on the Geronimo and Alligator Creeks Watershed Protection Plan



Ward Ling

Texas A&M AgriLife Extension



TEXAS A&M
AGRILIFE
EXTENSION

Water Quality Issue

- Geronimo Creek was listed in 2006 for not supporting its contact recreation use
- Geronimo Creek was listed in 2000 for concerns for nutrient enrichment due to elevated nitrates



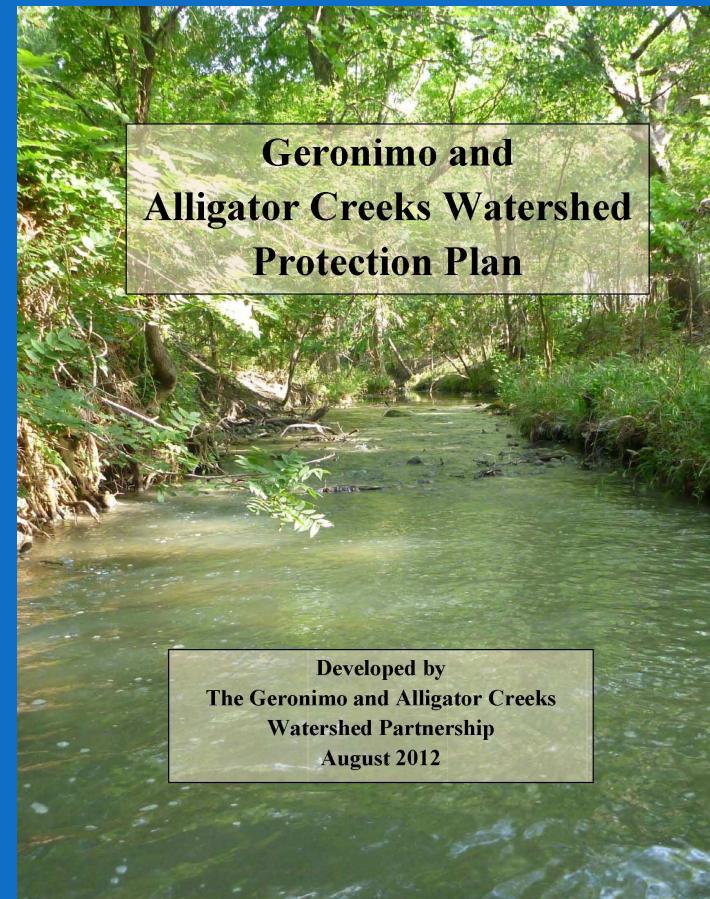
Where is it coming from?

- Collected and analyzed water samples from the creek
- Analyzed data and performed computer modeling
- The impairment is the result of loading from nonpoint sources
 - Urban: dogs, urban runoff
 - Agricultural: livestock, feral hogs, wildlife
 - Wastewater: septic systems



What is the Plan all about?

- A community-driven, voluntary management plan
- The purpose is to restore and protect the creeks
- It is developed and managed through partnerships with citizens
- Relies heavily on stakeholder involvement at the local level

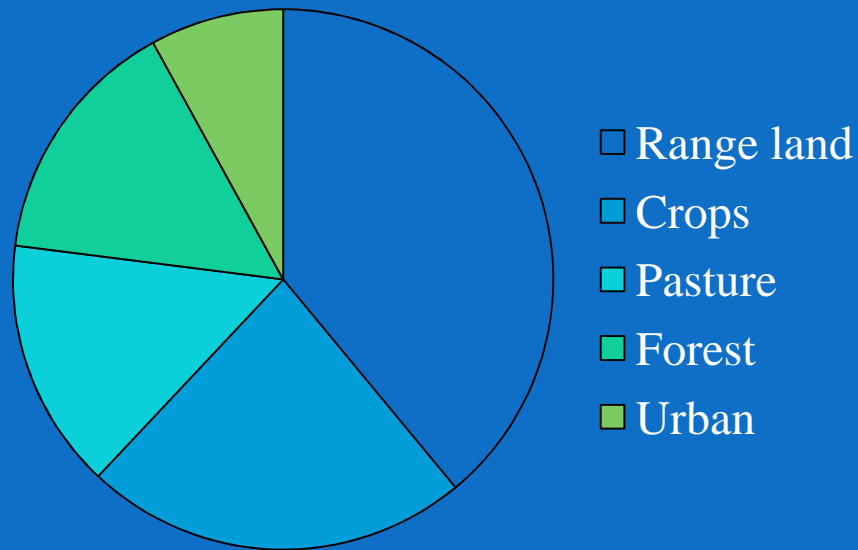


Watershed Overview

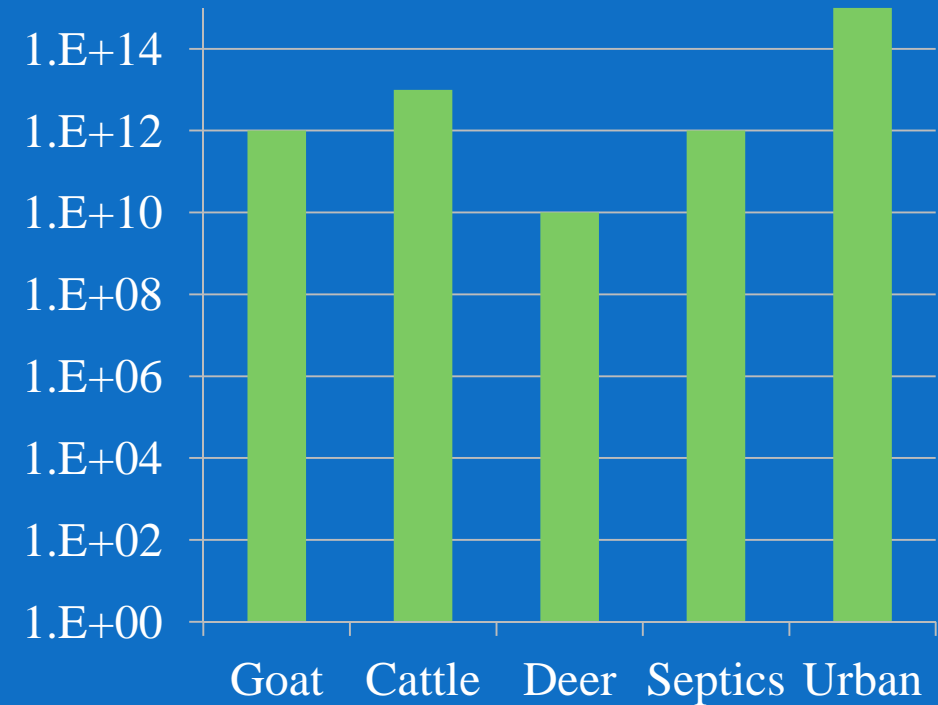
- 90% in agricultural production and shrinking
 - Majority in livestock production, rest in row crop
- 8% in urban areas and growing
 - Cities of Seguin and New Braunfels



Land Use



***E. coli* Loading**



- In terms of potential loading, urban runoff was higher than all the other sources.

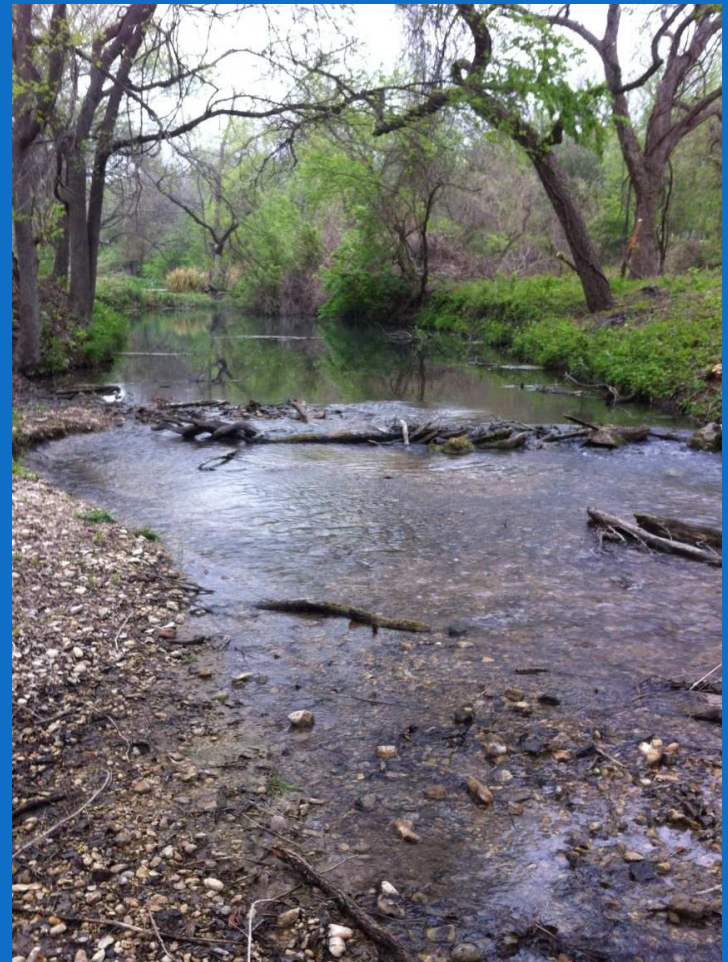
The Partnership—You!

- Stakeholder involvement is critical to protect and improve water quality in the creeks
- Participate in classes, workshops, the Annual Clean Up Event, and tell others.



Implementation

- 10 year period of implementation
- Conduct quarterly meetings to provide updates on implementation activities and water quality conditions
- Targeted water quality monitoring program to track progress



Nonpoint Source Management Measures

- Stakeholders developed a menu of Best Management Practices to address each potential source of pollution
- All practices in the WPP are voluntary
- Some practices qualify for financial assistance



Seguin Pet Waste Ordinance

WHEREAS, with a fair regularity the City receives citizen complaints regarding waste left in public areas and on private property by animals whose owners fail to clean up after their pets; and

WHEREAS, the presence of animal waste in the common public parks is a potential health risk; and

WHEREAS, on October 23, 2014, the Animal Services Advisory Board recommended that the City council approve an ordinance that requires animal owners to pick up waste left by their animals.

Grant Funded Projects

- Issues identified by stakeholders during development of the WPP, and along the way...



Septic Systems

- Grant from TCEQ to the City of Seguin
- Assisting homeowners with a septic system decommissioning project in Oak Village North



Field Technician

- Joseph McIntosh, is an employee of the Comal-Guadalupe SWCD
- He is a field technician who works with agricultural producers to better manage runoff from their operations



Irma Lewis Seguin Outdoor Learning Center Project

- Collaboration between GBRA, Texas A&M AgriLife, and the Irma Lewis Seguin Outdoor Learning Center
- Combines technology with on-the-ground demonstrations and outdoor education on LID techniques
- Rainwater harvesting, vegetated swales, rain garden, detention pond, and pervious pavement



Progress!

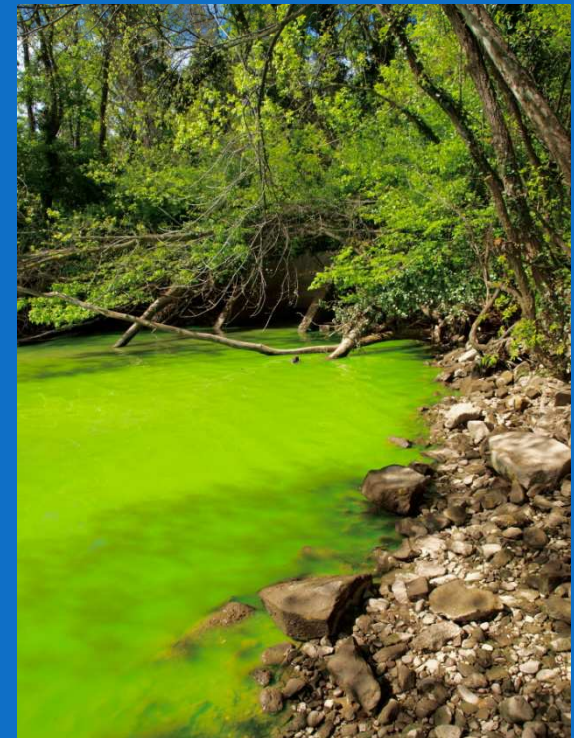


Success!



Isotope Study

- GBRA and USGS will conduct targeted surface water quality monitoring
- Identify the source of nitrates in the groundwater and surface water in the Geronimo and Alligator Creeks Watershed and Plum Creek Watershed
- Possible sources:
 - Fertilizers
 - Septic systems
 - Animal waste
 - Nitrifying plants
 - Atmospheric deposition



Watershed Coordinator

- To ensure that implementation of the WPP is completed
- Funding from TSSWCB to AgriLife Extension



Seguin High School

- Never before seen collaboration
- Impacting high school students and beyond



Educational Opportunities

- Texas Watershed Steward Workshop
- Texas Well Owner Network Workshop
- Lone Star Healthy Streams Program
- Septic system workshops
- Master Gardener and Naturalist training
- Bacteria, nutrient, and pesticide management programs
- Soil and water testing campaigns



Homeowner Septic System Maintenance Classes

- Classes conducted Nov 2013 and April 2014
- Two types of classes conducted
 - 2 hr basic overview class (materials on project website)
 - 6 hr in-depth class on aerobic systems
- Comal and Guadalupe County homeowners with aerobic systems are required to have a maintenance contract for first 2 years
 - After that time, Guadalupe County homeowners can be certified or must have a maintenance contract

Next Round

- Scheduling classes for Spring 2015
- Plan to offer both the 2 hr and 6 hr classes

Those taking the 6 hr class will receive certification to maintain their own aerobic systems (Guadalupe County requirement)



Feral Hog Control

- Josh Helcel, the Feral Hog Education Program Assistant, focuses on feral hog management in the watershed
- The position works directly with landowners to reduce hog populations in the watershed
- Contact info at <http://www.geronimocreek.org/>



Feral Hog/Lone Star Healthy Streams Workshop

- Currently scheduling for the fall 2015
- Come hear about how to protect Texas' surface water from bacterial contamination from livestock, horses, and feral hogs
- 3 TDA CEUs for pesticide applicators



Smart Growth Workshop

- Explore Low Impact Development techniques – have an improved impact on surface water, both quality and quantity
- Target audience is the county and city decision makers



Second Annual Clean Up Event

- Prior to the event, volunteers used the online sign up form
- Day of the event, all necessary equipment was provided
- Water bottles, breakfast tacos, and T-shirts were distributed
- Guadalupe County Master Naturalists presented educational presentations to many of the clean up crews – took “an educational fair to the crews”



Sponsors

- 
- Cities of New Braunfels and Seguin
 - Alamo Group
 - Continental Corporation
 - Geronimo Creek Retreat
 - Geronimo Lions Club
 - Guadalupe County Commissioner Seidenberger
 - Guadalupe-Blanco River Authority
 - HEB
 - Liz Sedlacek
 - New Braunfels Herald-Zeitung
 - Robin and Bill Walker
 - Seguin Daily News KWED
 - Seguin Gazette
 - Spirit of Joy Lutheran Church
 - Texas A&M AgriLife Extension
 - Thrivent Financial for Lutherans



Coverage

- 22 locations covering 17 miles of roadways and creek banks
- Over 230 volunteers
- Volunteers could choose to meet at one of three locations











Results

- Volunteers collected over 7,000 pounds of trash
- Cities of New Braunfels and Seguin donated disposal and recycling of all materials collected
- Residents have a greater awareness of area creeks
- Great response from area businesses and groups



Upcoming Opportunities

- 3rd Annual Clean Up Event April 11
- Homeowner Septic System Maintenance Workshops
- Smart Growth Workshop
- Feral Hog/Lone Star Healthy Streams Workshop
- Turf grass management workshop in the fall
- Quarterly newsletter
- Quarterly Partnership meetings



Thank You!
Get connected at
<http://www.geronimocreek.org/>

